WebObjects Overview

Session 604

These are confidential sessions—please refrain from filming or taking pictures.

Enterprise IT

WebObjects Overview

Daryl Lee
Apple

http://developer.apple.com/wwdc2005/

What You'll Learn

- WebObjects Overview
- WebObjects Directions
- WebObjects Documentation

Rumors

Roadmap?

- Direct From Brain
- Direct To Newest OS Release
- Direct To Programming Language
- Direct To Customer Buzz Word
- Direct To Mailing List

WebObjects

- Direct To Customers
- Direct To Wallet
- Direct To Developer Tools

WebObjects

The easiest way to build J2EE-compatible solutions

WebObjects

Everything you need to build enterprise-class applications

- Integrated development environment
- Database mapping
- Code-free rapid prototyping
- Web services
- HTML page layout

J2EE

- Java 2 SDK
- RMI/IIOP
- JDBC
- Java Messaging Service
- JNDI
- Servlet
- Java Server Pages
- JavaMail
- Java Beans Activation Framework
- Enterprise Java Beans
- Java Transaction API
- Connector Architecture

WebObjects

Java 2 SDK

RMI/IIOP

JDBC

Java Messaging Service

JNDI

Servlet

Java Server Pages

JavaMail

Java Beans Activation Framework

Enterprise Java Beans

Java Transaction API

Connector Architecture

Advantages

- Visual tools
- Frameworks
- Scalability

Where Is it Used?

- Digital and Print Asset management
- Higher Education
- Scientific Technical Community
- Apple

The Apple Store (U.S.)

http://store.apple.com/1-800-MY-APPLE/WebObjects/AppleStore/

Google

Apple (62) ▾ Amazon eBay Yahoo! News (308) ▾

Store | iPod + iTunes | .Mac | QuickTime | Support | Mac OS X

Your Account | View Cart | Saved Carts | Order Status | Customer Service

Apple Store

Search

Tiger Center

- Mac OS X Tiger
- Tiger Family Pack
- Exclusive Offer
- iLife+iWork Savings
- Tiger Essentials

iPod

- iPod
- iPod mini
- iPod photo
- iPod shuffle
- iPod U2

iPod Accessories

- Armbands
- Cables & Docks
- Car Audio
- Cases
- Extras
- Headphones
- Power
- Speakers

Macintosh

- eMac
- iBook
- iMac
- Mac mini
- Power Mac G5
- PowerBook
- Xserve G5

The new iMac G5.

- Up to 2GHz PowerPC G5 processor
- 512MB RAM standard
- Built-in wireless
- Mac OS X Tiger and iLife '05

From $1,299. Free shipping

Portables

12-inch 14-inch 12-inch 15-inch 17-inch

iBook from $999 **PowerBook** from $1499

Desktops

Mac mini from $499 **eMac** from $799 **iMac** from $1299 **Power Mac** from $1499

iPod Store

iPod shuffle from $99 **iPod mini** from $199 **iPod** just $299 **iPod U2** just $349 **iPod photo** from $349

Welcome

Sign in or create your own personal account

Sign up for 1-Click

Order online or call

1-800-MY-APPLE

(1-800-692-7753)

More Stores

- Education
- Business
- Government
- International

Top Sellers

- iPod mini
- iTunes Gift Certificate
- iPod shuffle
- Mac OS X v10.4 "Tiger"
- iPod 20GB
- iPod photo
- iPod USB Power Adapter
- iMac G5
- AppleCare for iPod
- iTunes Music Store Card $15

New to the Store

- iMac G5
- Power Mac G5
- eMac
- Mac OS X v10.4 "Tiger"
- Mac OS X v10.4 "Tiger" Family Pack

Buying Guides

Apple .Mac Welcome

http://www.mac.com/WebObjects/Welcome.woa?aff=consumer&cty=US

Google

Apple (62) ▾ Amazon eBay Yahoo! News (308) ▾

Store | iPod + iTunes | .Mac | QuickTime | Support | Mac OS X

Mail | Address Book | Bookmarks | HomePage | iCards | Help | Log In

Extend your Mac experience to the Internet—and unlock powerful features in new Mac OS X v10.4 "Tiger." An annual membership to .Mac gives you innovative software and services, plus exclusive discounts, free downloads, and online Apple training. Just US$99.95 per year or US$179.95 for the new .Mac Family Pack.

iDisk
Get storage on Apple's servers for email, web pages, and files.

Sync
Synchronize contacts and personal data Mac-to-Mac or to the web.

HomePage
Publish photos and movies directly from iLife to your own personal web pages.

Email
World-class ad-free email plus iChat

Sync
Mac-to-Mac and online personal data syncing

HomePage
Web publishing made easy and elegant

iDisk
Online storage accessible from Macs and PCs

Backup
Hassle-free Backup software

Member Benefits

Test drive .Mac
Test drive .Mac for 60 days free.

Take a tour of our features and services.

Get the .Mac Family Pack
The .Mac experience for the whole family.

.Mac + Tiger
Take syncing to a whole new level. Sync Keychain passwords and Mac OS X Mail Preferences Mac-to-Mac.

Learning Center
Member resources include Apple's own Tiger tutorials, plus training materials for Apple's Pro Apps, iLife '05, iWork '05, .Mac, and more.

Support
Network Status

iTunes

Vertigo
Elapsed Time: 0:10

Search Music Store

Browse

Source

- Library
- Party Shuffle
- Radio
- Music Store
- Purchased Music
- My iPod
- Shared Music
- Recently Played
- Top 25 Played
- Walking Music
- On The Train

Account: steve@mac.com

Choose Store

Choose Genre

Browse Music
Power Search

Audiobooks
Disney
iMix
Billboard Charts
Radio Charts

Music Videos
Movie Trailers

Allowance
Gift Certificates
Prepaid Cards
Redeem
Support

iTunes Essentials

Alternative Now
Tin Pan Alley

New Releases — See All

Confessions (Spec...
Usher

Carencro
Marc Broussard

Suit
Nelly

Greatest Hits
Shania Twain

Exclusives — See All

With the Lights Out
Nirvana

It Ain't Easy
Gretchen Wilson

Jazz in Paris Vol. 53...
Chet Baker

Went to See the ...
Bob Dylan

Music: The Perfect Gift

Today's Top Songs

1. Vertigo
   U2
2. Just Lose It
   Eminem
3. Over and Over
   Nelly & Tim McGraw
4. My Boo
   Usher & Alicia Keys
5. Lose My Breath
   Destiny's Child
6. Let's Go
   Trick Daddy
7. Drop It Like It's Hot
   Snoop Dogg & Pha...
8. Welcome to My Life
   Simple Plan
9. Breakaway
   Kelly Clarkson
10. What You Waiting...
    Gwen Stefani

Top 100 Songs

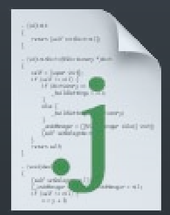
WebObjects Architecture

Data Access

JDBC
Database

JNDI
Directory

Business Logic



Java Code

Presentation

Web App

Web Services
Client

Java App

Development Workflow

Data Access

JDBC Database

EOModeler

JNDI Directory

Business Logic

Xcode

Java Code

Presentation

WebObjects Builder

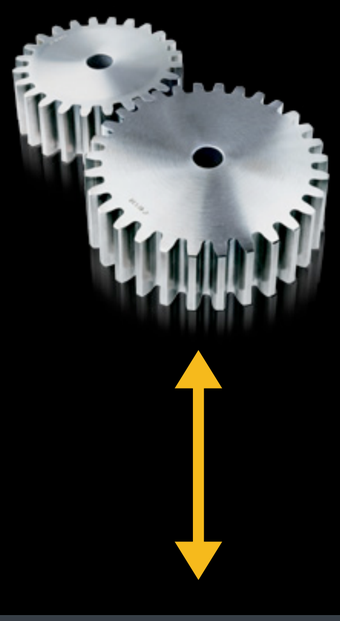
WebServices Assistant

Interface Builder

Web App

Web Services Client

Java App



Automated Data Access

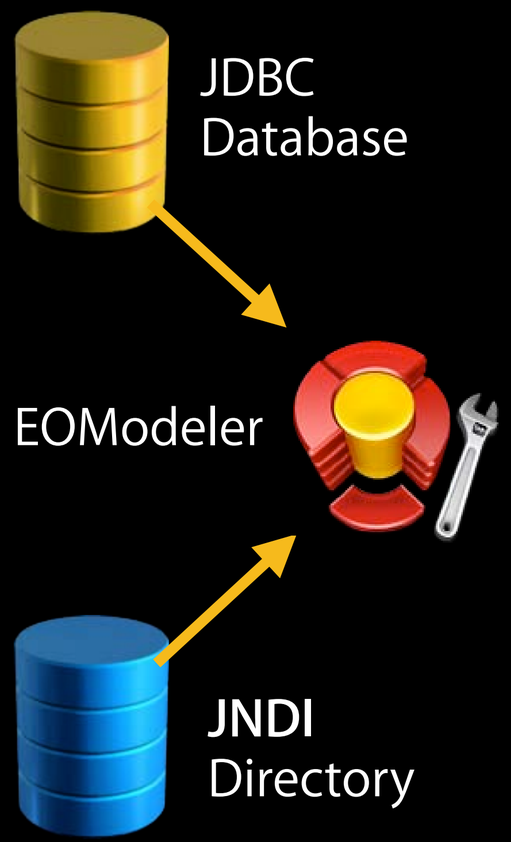
- No Need to write SQL
- Database independence
- Transparent persistence

JNDI Directory
JDBC Database

Model File

Enterprise Objects

Building the Model



- EOModeler reverse engineers your database finding all tables, columns, and relationships

OR

- Use EOModeler for schema design
- EOModeler generates Java class files for you

Xcode File Edit View Format Find Project Build Debug Design SCM Window Help 29 18:44:40 Sat 7:05 AM test

Movies.eomodeld

Build Build and Go Tasks Fix Breakpoints Project Ungrouped

Movies.eomodeld Talent

Entity	Abstract
MovieRole	
Voting	
Talent	
PlotSummary	
Studio	
Review	
Movie	
TalentPhoto	
Director	

Property	Kind
talentID	Attribute
firstName	Attribute
toDirector	Relationship
lastName	Attribute
photo	Relationship
roles	Relationship

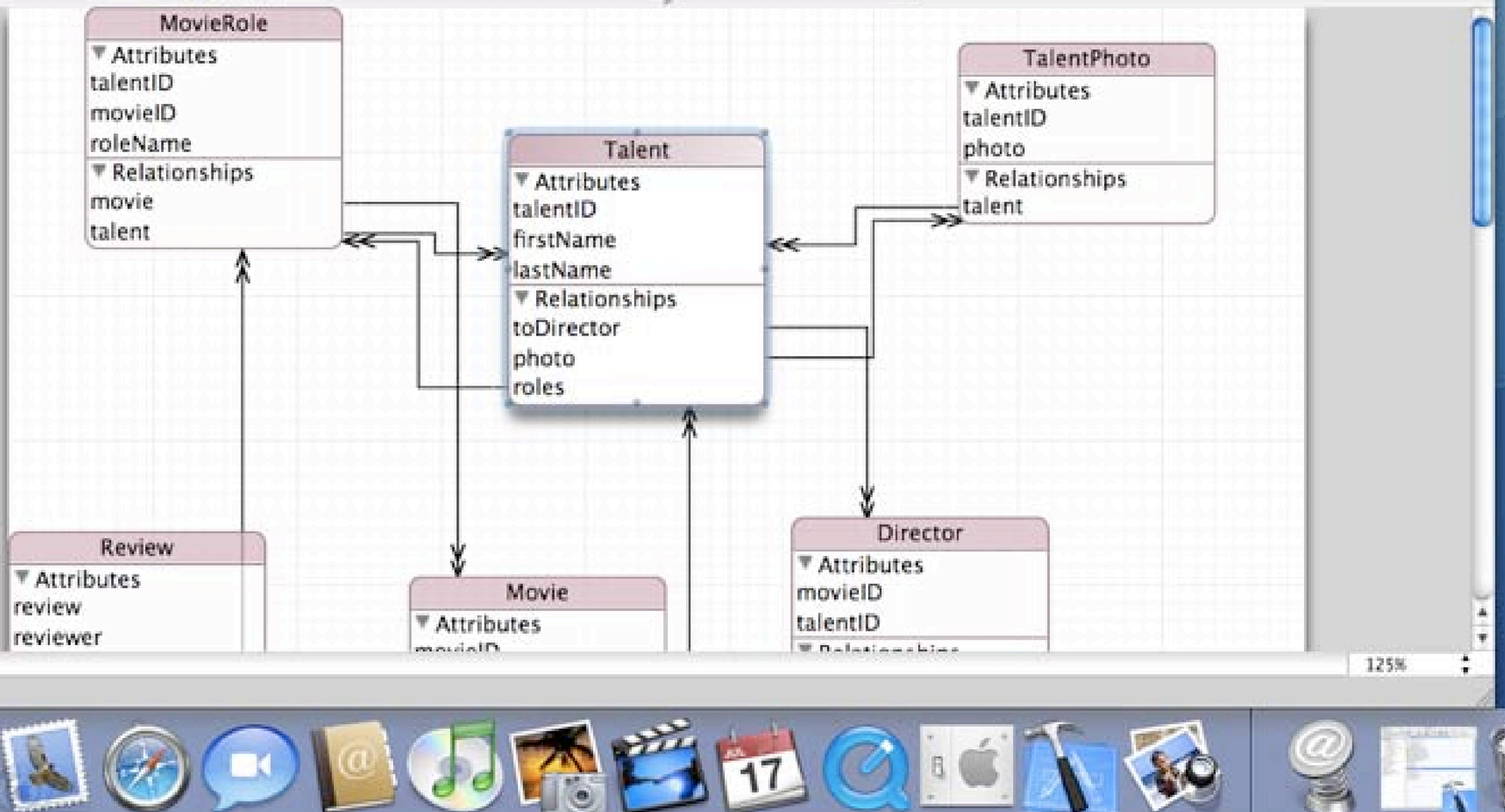
XDEOEntity

Name: Talent

Class: webobjectsexamples.businesslogic.movies.common.

Parent: No Parent Entity

is Abstract



EOModeler Model Edit Property Tools Window Help Wed 4:26 PM John Smith

/Volumes/Data/Users/smith/Projects/Movies.eomodeld

Movies
- Director
- Movie
- MovieRole
- PlotSummary
- Review
- Studio

Show Entity: All | Entity Chooser... | Remove Layout

Show Relationship: None | Ortho Lines | Default

MovieRole
movieID
roleName
talentID
movie >
talent >

Movie
category
dateReleased
movieID
posterName
rated
revenue
studioID
title
trailerName
directors »
plotSummary >
reviews »
roles »
studio >
toDirector »
voting >

PlotSummary
movieID
summary
movie >

Talent
firstName
lastName
talentID
moviesDirected »
photo >
roles »
toDirector »

Studio
budget
name
studioID
movies »

Director
movieID
talentID
toMovie >
toTalent >

Entity Inspector

Name: Movie
Table Name: MOVIE
Class: EOGenericRecord

Properties

- category
- dateReleased
- movieID
- posterName
- rated
- revenue
- studioID
- title
- trailerName
- directors
- plotSummary

Primary Key | Class Property
Used For Locking | — Not applicable

Development Workflow

Data Access

JDBC
Database

EOModeler

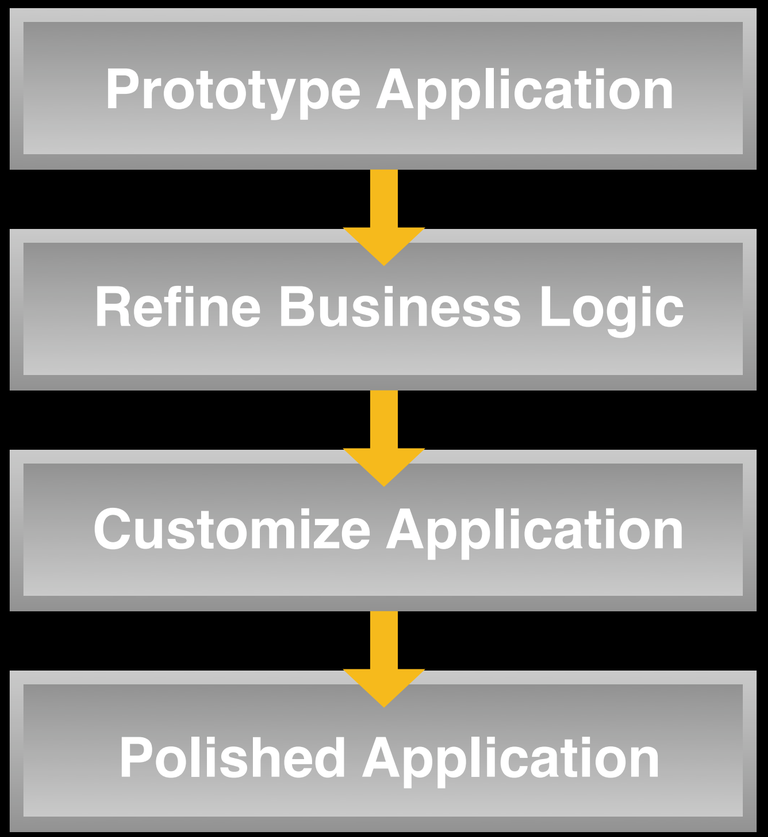
JNDI
Directory

Business Logic

Xcode

Java
Code

Better Development Process



Development Workflow

Data Access

JDBC Database

EOModeler

JNDI Directory

Business Logic

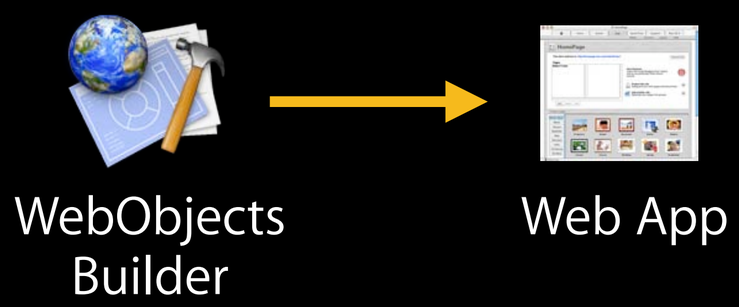
Xcode

Java Code

Presentation

WebObjects Builder

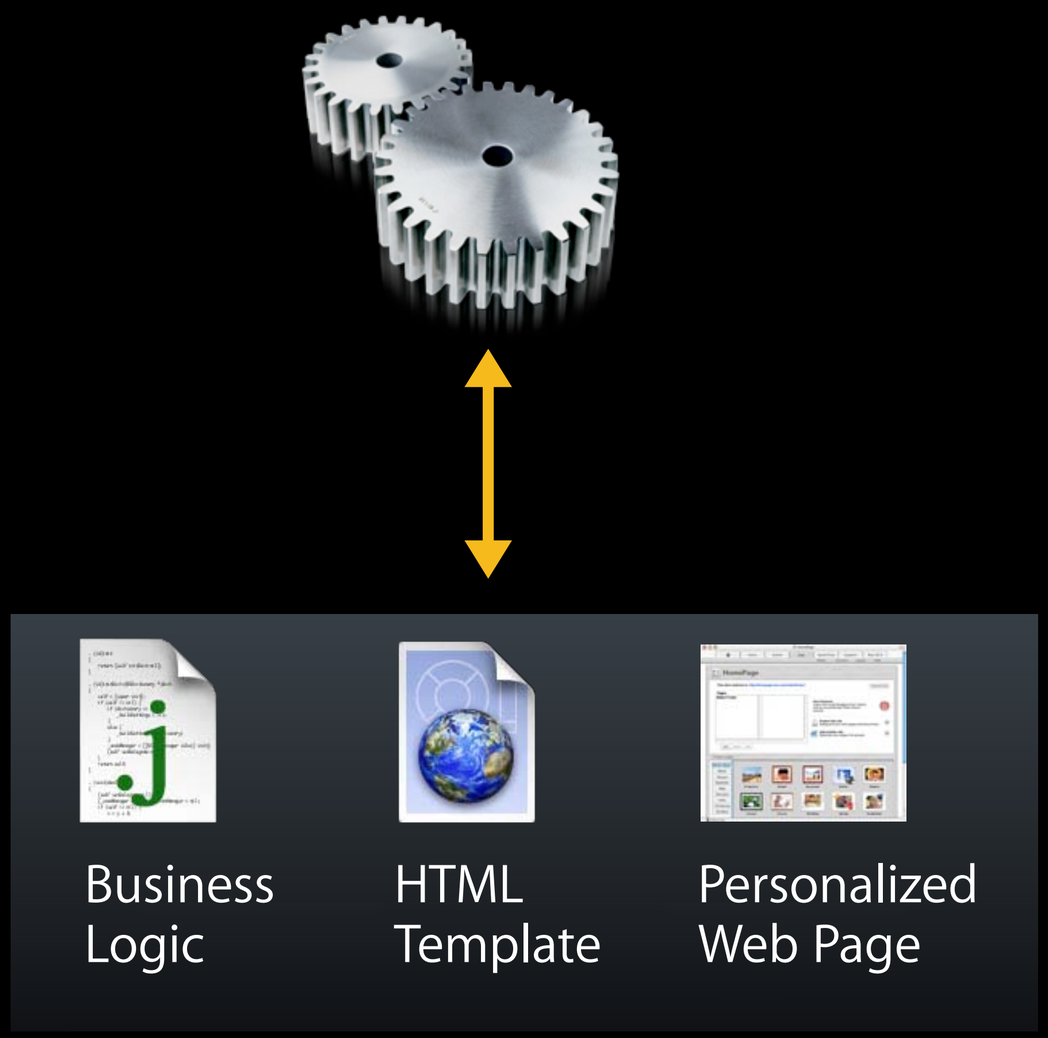
Web App



Web Applications

- Graphical HTML Editor
- Visual development environment to build data driven web pages
- Reusable components

Dynamic Pages



- Isolates HTML and logic from the page
- Manages sessions, users, security
- Generates HTML or XML
- Interop with JSP
- Localization support

WebObjects Builder File Edit Format Elements WebObjects Forms Window Help

29 18:56:44 Sat 7:17 AM test

PremadeElements Palette

Repeated Header | Header | Header
Repeated Data | Data | Data

Repeated List

Repeated Radio

WOFileUpload

Submit

Radio 1
Radio 2
Radio 3
Radio 4
Radio 5

POWERED BY WebObjects

Palettes

Main.wo

Preview | Layout | Source

Switch Mode

Interface Inspector Palette Validation

Elements WebObject Forms

START NAV BAR TABLE

Store | iPod + iTunes | .Mac | QuickTime | Support | Mac OS X

Hot News Switch Hardware Software Made4Mac Education Pro Business Developer Where to Buy

END NAV BAR TABLE SiteCatalyst code version: G.6.... End SiteCatalyst code version: G.6.

<body> point

Main

application

session

Page Inspector

Static Inspector

Title:

Title is dynamic

Apple

Full document

Make Dynamic

Background Color:

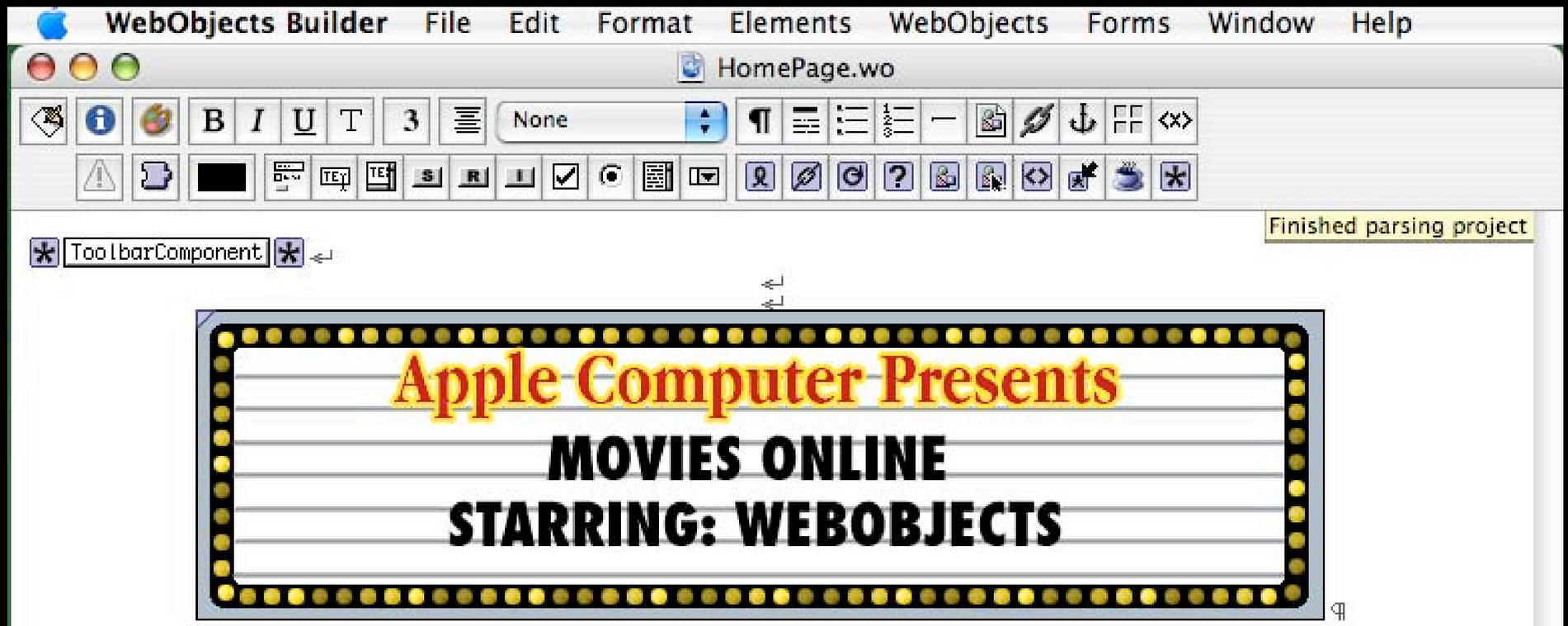
Texture...

Text color

Link color

Pressed links

Visited links


WebObjects Builder
File
Edit
Format
Elements
WebObjects
Forms
Window
Help
HomePage.wo
None
Finished parsing project
ToolbarComponent
Apple Computer Presents
MOVIES ONLINE
STARRING: WEBOBJECTS
<BODY> <CENTER> <WOImage>
HomePage
application
session

Development Workflow

Data Access

JDBC Database

EOModeler

JNDI Directory

Business Logic

Xcode

Java Code

Presentation

WebServices Assistant

Web Services Client

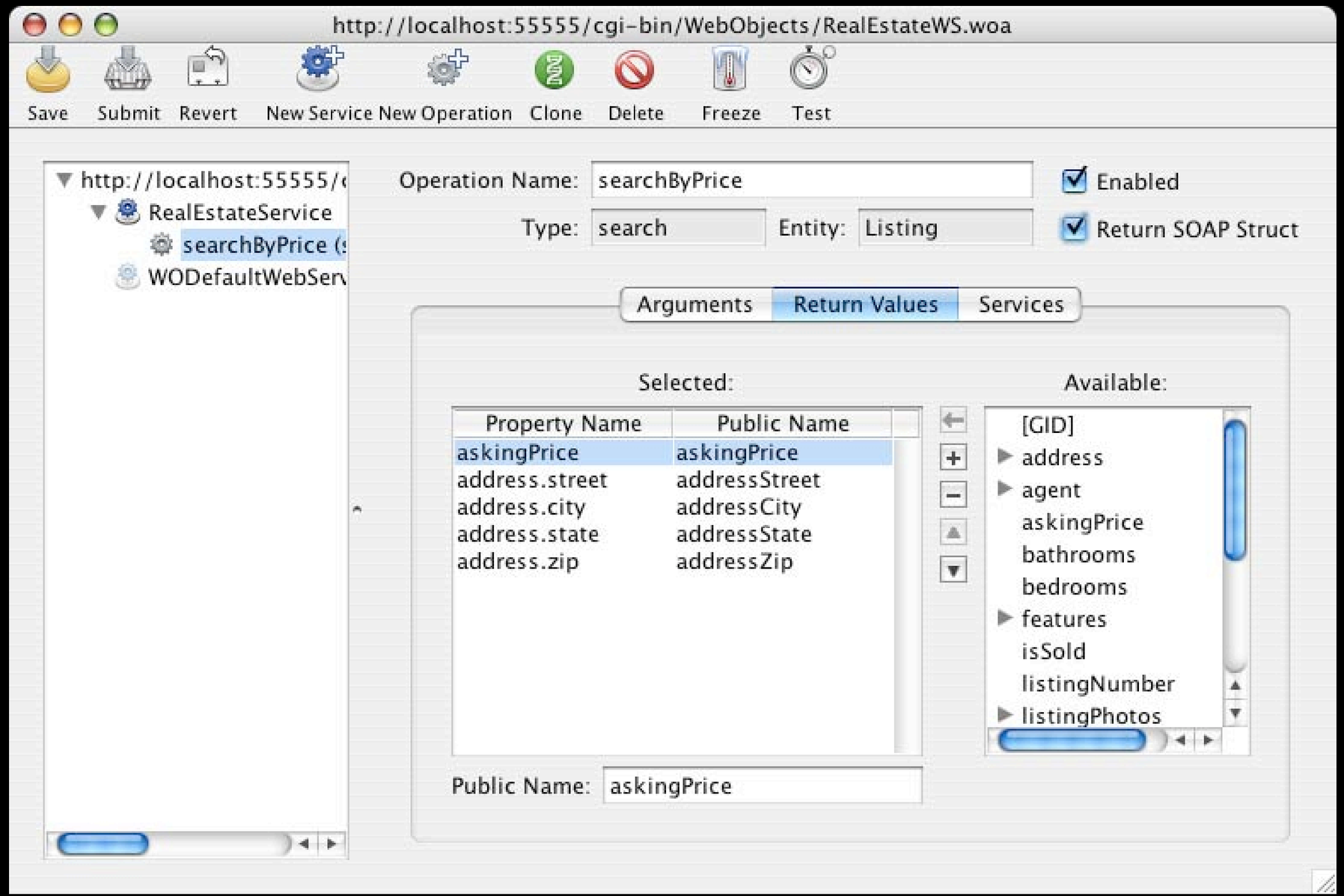
Dynamic Web Services

- Standards-based web services drive application integration
- Interop with many languages, including Applescript, C++, Java and .Net
- New class of programmers

Building Web Services

- Build or consume web services
- Tools for configuration and testing
- Code-free generation of web services from existing data assets
- No need to worry about the details of XML, SOAP, or WSDL

Dynamic Web Services



Web Services Clients

- Web services built in part of OS X
  - WSMakeStubs
  - Applescript/Automator
  - Dashboard
- Use WebObjects as web service client

Development Workflow

Data Access

JDBC
Database

EOModeler

JNDI
Directory

Business Logic

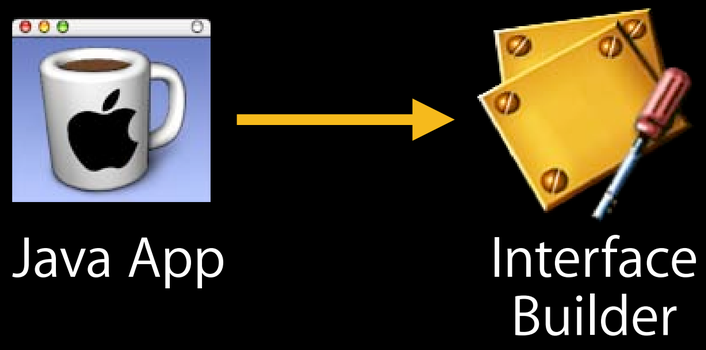
Xcode

Java
Code

Presentation

Interface
Builder

Java App

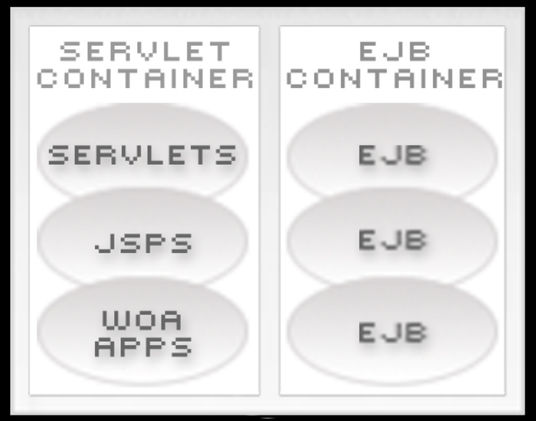


Desktop Applications

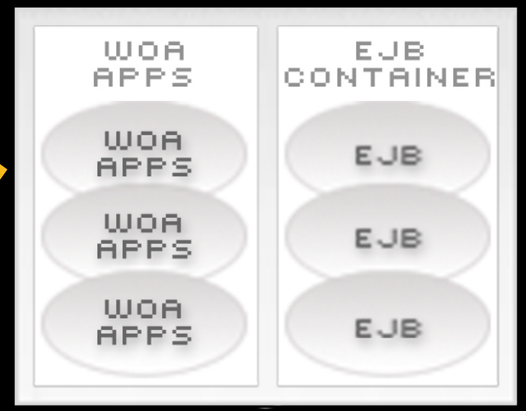
- Assistant for customizing layout
- Tool for creating custom Swing (Java) widgets
- Java WebStart integration

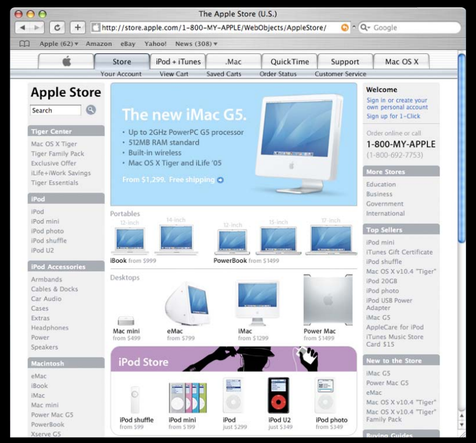
Flexible Deployment Options

J2EE Application Server



WebObjects Java Application Server

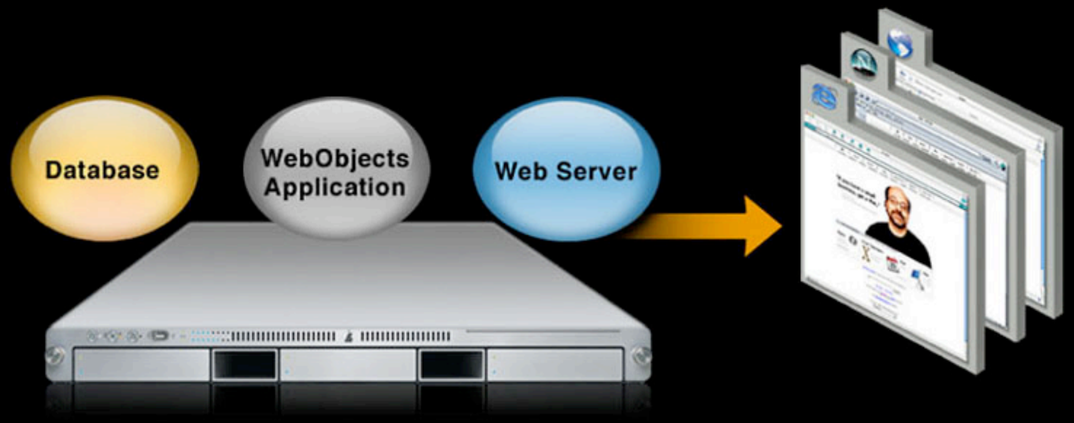




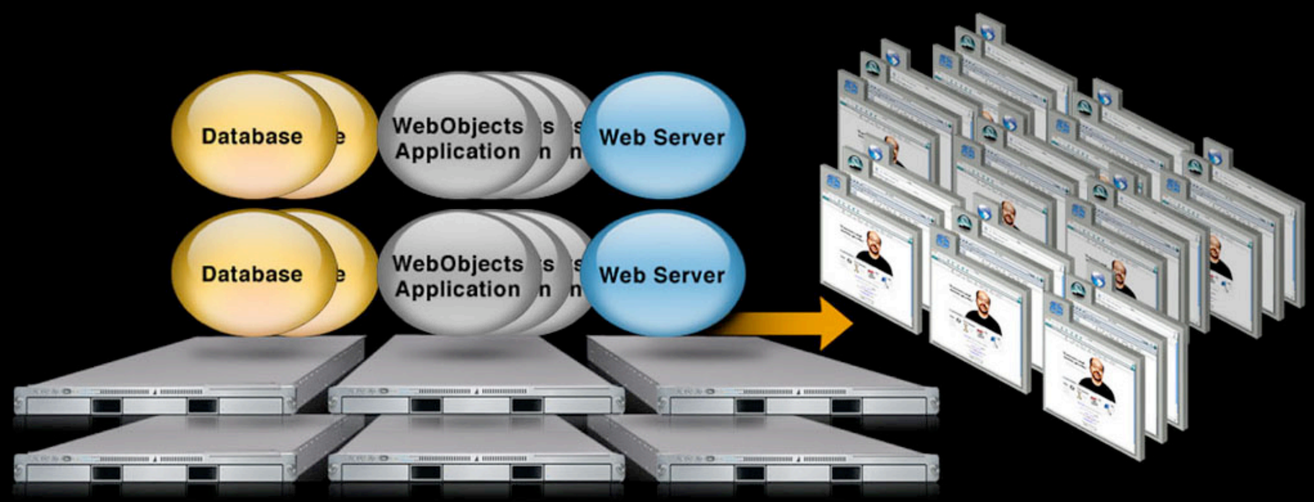
WebObjects Deployment

- Built in clustering support
  - Load balancing
  - Session management
  - Automatic restarting
- Remote configuration and monitoring tools

Start Simple



Scale Easily

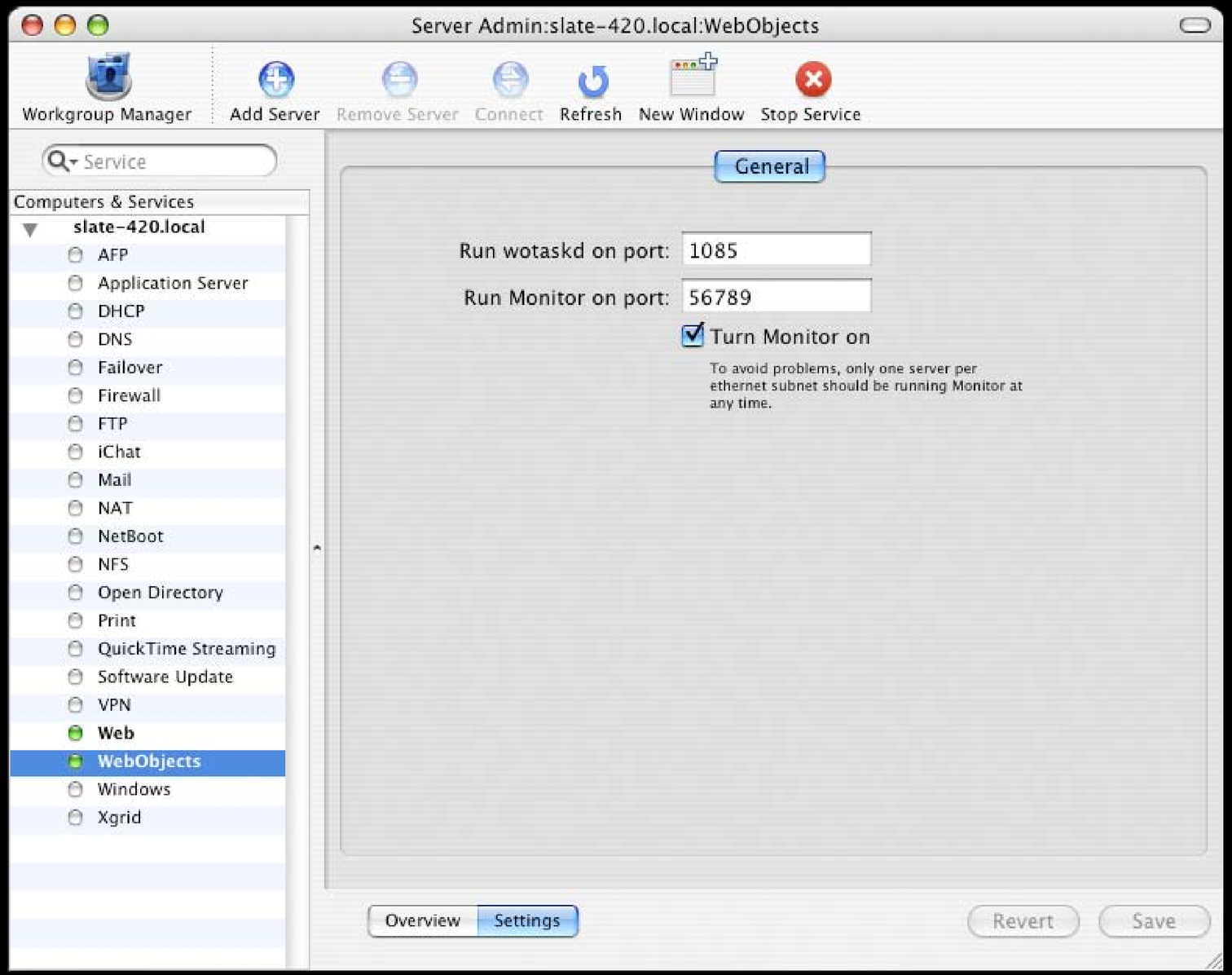


Recent Events

http://developer.apple.com/wwdc2005/

WebObjects 5.2.4

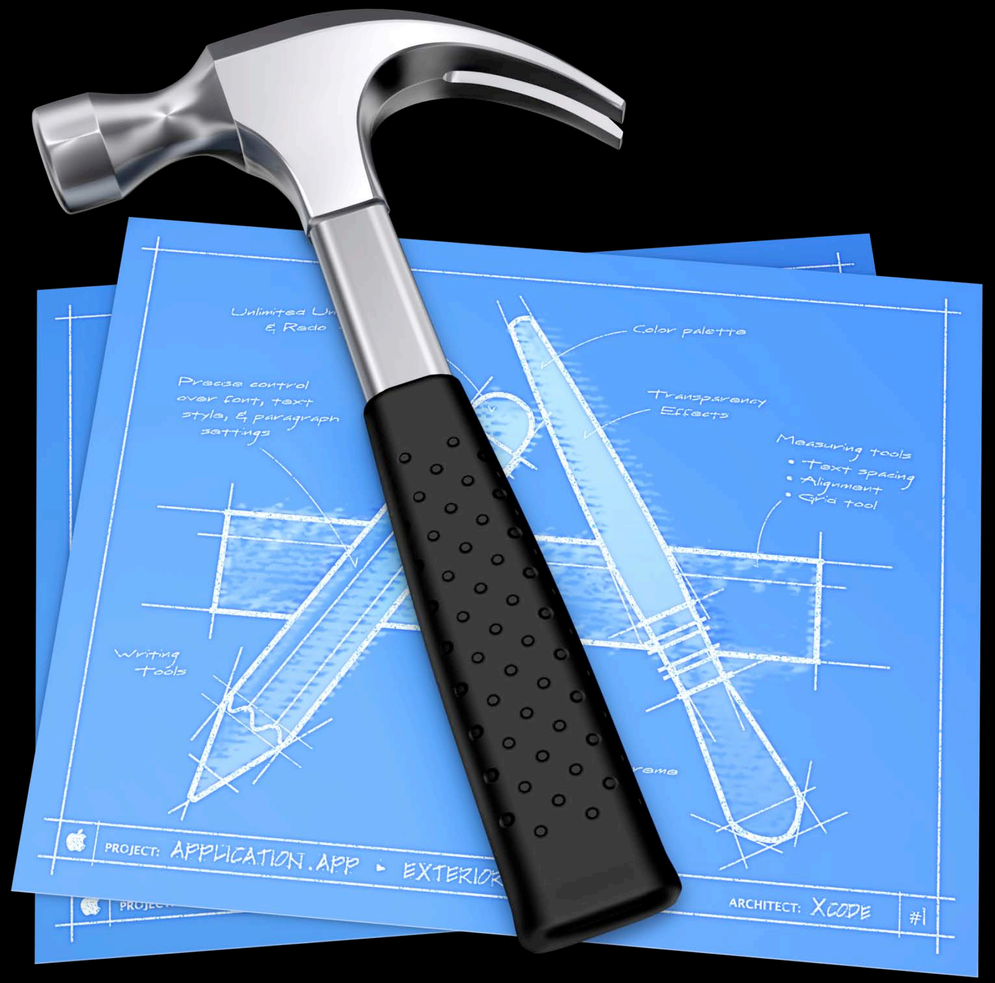
- WebObjects 5.2.4
- Supported with 1.4.2 JVM
- Tiger Server distribution
  - WebObjects Server Admin Plugin


Server Admin:slate-420.local:WebObjects
Workgroup Manager
Add Server
Remove Server
Connect
Refresh
New Window
Stop Service
Service
Computers & Services
slate-420.local
AFP
Application Server
DHCP
DNS
Failover
Firewall
FTP
iChat
Mail
NAT
NetBoot
NFS
Open Directory
Print
QuickTime Streaming
Software Update
VPN
Web
WebObjects
Windows
Xgrid
General
Run wotaskd on port:
1085
Run Monitor on port:
56789
Turn Monitor on
To avoid problems, only one server per ethernet subnet should be running Monitor at any time.
Overview
Settings
Revert
Save

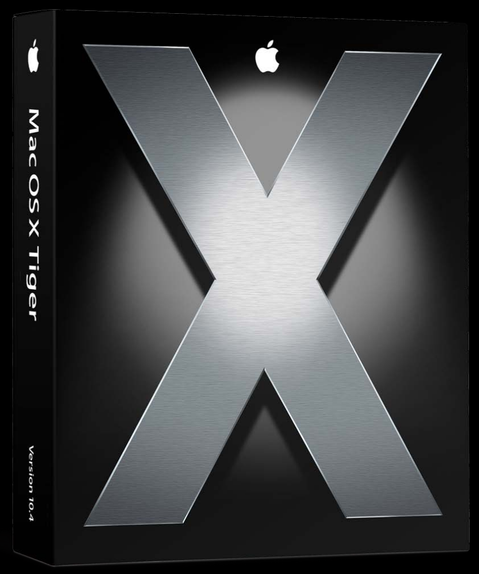
WebObjects

- Direct To Customers
- Direct To Wallet
- Direct To Developer Tools

WebObjects 5.3 on Xcode 2.1 Developer Tools



WebObjects 5.3 on Tiger Server



Mac OS X Server v10.4

Open source made easy.

What's in It?

- Xcode EOModeler plugin
- Updated WebObjects Builder
- HTML/XHTML Compatibility
- Java Collection Classes Support
- Updated WebServices
- Oracle 10g Support

XcodeEOModelerPlugin

- Tighter integration with IDE
- Based on Core Data modeling
- More to come

EOModeler Model Edit Property Tools Window Help Wed 4:26 PM John Smith

/Volumes/Data/Users/smith/Projects/Movies.eomodeld

Movies
- Director
- Movie
- MovieRole
- PlotSummary
- Review
- Studio

Show Entity: All | Entity Chooser... | Remove Layout

Show Relationship: None | Ortho Lines | Default

MovieRole
movieID
roleName
talentID
movie >
talent >

Movie
category
dateReleased
movieID
posterName
rated
revenue
studioID
title
trailerName
directors »
plotSummary >
reviews »
roles »
studio >
toDirector »
voting >

PlotSummary
movieID
summary
movie >

Talent
firstName
lastName
talentID
moviesDirected »
photo >
roles »
toDirector »

Studio
budget
name
studioID
movies »

Director
movieID
talentID
toMovie >
toTalent >

Entity Inspector

Name: Movie
Table Name: MOVIE
Class: EOGenericRecord

Properties

- category
- dateReleased
- movieID
- posterName
- rated
- revenue
- studioID
- title
- trailerName
- directors
- plotSummary

Primary Key | Class Property
Used For Locking | — Not applicable

Xcode File Edit View Format Find Project Build Debug Design SCM Window Help 29 18:44:40 Sat 7:05 AM test

Movies.eomodeld

Build Build and Go Tasks Fix Breakpoints Project Ungrouped

Movies.eomodeld Talent

Entity	Abstract
MovieRole	
Voting	
Talent	
PlotSummary	
Studio	
Review	
Movie	
TalentPhoto	
Director	

Property	Kind
talentID	Attribute
firstName	Attribute
toDirector	Relationship
lastName	Attribute
photo	Relationship
roles	Relationship

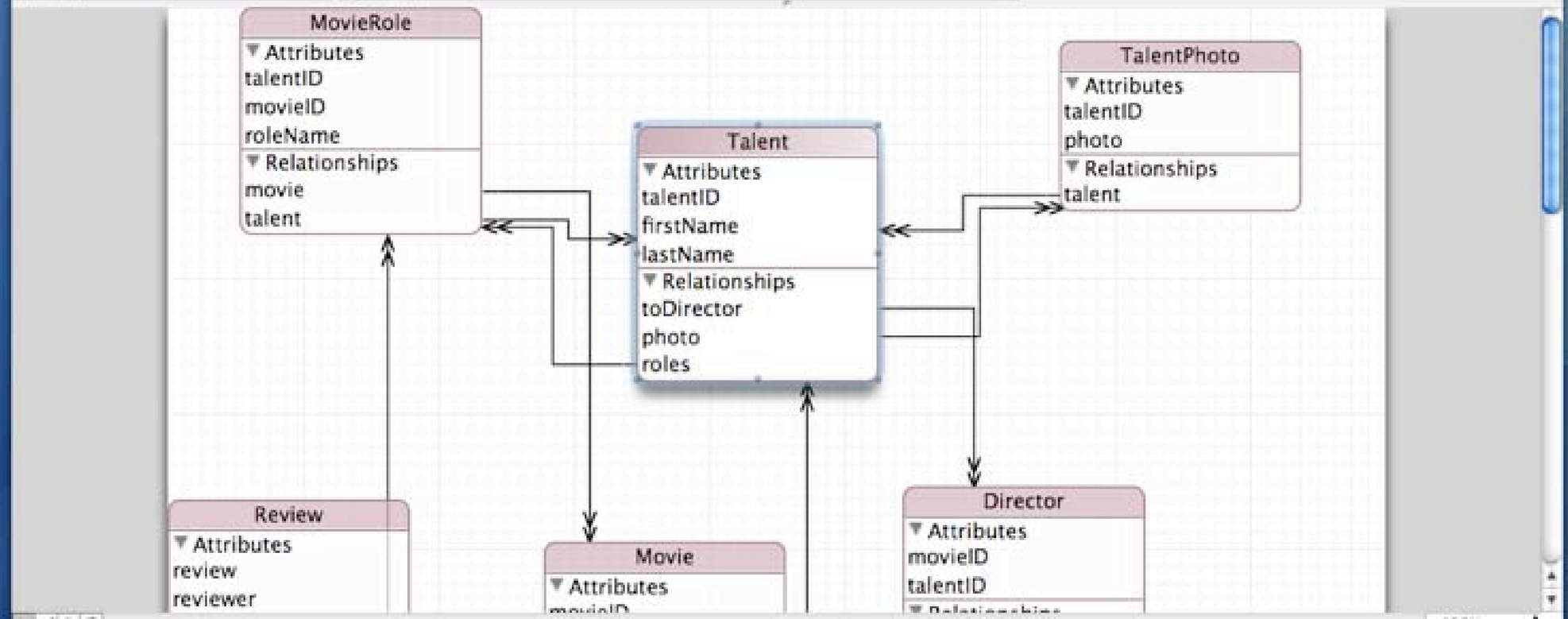
XDEOEntity

Name: Talent

Class: webobjectsexamples.businesslogic.movies.common.

Parent: No Parent Entity

is Abstract



125%

Demo

EOModeler Plugin

http://developer.apple.com/wwdc2005/

HTML

- Tool and Runtime support
- HTML 4.0.1
- CSS
- XHTML Compatibility

WebObjects Builder

- User interface
- HTML 4.0.1 support
- XHTML

WebObjects Builder File Edit Format Elements WebObjects Forms Window Help

HomePage.wo

None

Finished parsing project

ToolbarComponent

Apple Computer Presents

MOVIES ONLINE

STARRING: WEBOBJECTS

<BODY> <CENTER> <WOImage>

HomePage

application

session

Edit Source

WebObjects Builder File Edit Format Elements WebObjects Forms Window Help 29 18:56:44 Sat 7:17 AM test

PremadeElements Palette

Repeated Header | Header | Header
Repeated Data | Data | Data

+ Repeated List

Repeated Radio

WOFileUpload

Submit

Radio 1
Radio 2
Radio 3
Radio 4
Radio 5

Palettes

Main.wo

Preview Layout Source
Switch Mode

Interface Inspector Palette Validation

Elements WebObject Forms

START NAV BAR TABLE

Store iPod + iTunes .Mac QuickTime Support Mac OS X

Hot News Switch Hardware Software Made4Mac Education Pro Business Developer Where to Buy

END NAV BAR TABLE SiteCatalyst code version: G.6.... End SiteCatalyst code version: G.6.

Spotlight
Instantly find anything anywhere on your Mac — documents, emails, contacts, images, even things inside PDF files.

<body> point

Main

application
session

Page Inspector

Static Inspector

Title:
Title is dynamic
Apple
Full document

Background Color:
Texture...

Text color
Link color
Pressed links
Visited links

Make Dynamic

Demo

WebObjects Builder

http://developer.apple.com/wwdc2005/

Java Collection Interfaces

- NSArray
- NSDictionary
- NSSet

WebServices

- Axis 1.1
- Better Interop

Demo

WebObjects and Dashboard

http://developer.apple.com/wwdc2005/

WebObjects 5.3 Compatibility

- Operating Systems
  - Mac OS X 10.4.1 with Xcode 2.1 Developer Tools (Developer only)
  - Mac OS X Server 10.4.1 (Deployment only)
- WebServers
  - Apache 1.3.3
- Databases
  - Microsoft SQL Server 2000 Standard Edition 8.00.194 (Intel X86)
  - MySQL 4.1.10a
  - OpenBase 8.0
  - Oracle 10g Enterprise Edition 10.1.0.3
  - Oracle 9i Enterprise Edition 9.2.0.1.0
  - Sybase Adaptive Server Enterprise 12.5.0.2
- LDAP Servers
  - OpenLDAP 3.3
- Third-Party Application Servers
  - JBoss 3.2.3
  - Tomcat 4.1.29

WebObjects 5.3

- Developer Tools distribution
- Compatibility information Online
  - http://docs.info.apple.com/article.html?artnum=72598
- Available now

WebObjects Futures

- Developer Tools updates
- EOModeler Plugin
- WebObjects Builder
- Better deployment and monitoring
- Support for JVM 1.5

More Information

http://developer.apple.com/wwdc2005/

Documentation, Sample Code, and Other Resources

http://developer.apple.com/wwdc2005/

WebObjects 5.3 Documentation

- Available now:
  - WebObjects 5.3 Release Notes
  - WebObjects 5.3 Reference
  - WebObjects 5.3 Updates
  - Enterprise Objects Modeling chapter in Xcode 2.1 User's Guide
- Coming soon:
  - Getting Started with WebObjects
  - WebObjects Overview
  - WebObjects Web Applications Programming Guide
  - WebObjects Tutorials

Related Sessions

WebObjects Tools	Session 607 Tuesday 3:30PM
WebObjects Deployment and J2EE Deployment Workshop	Session 610 Tuesday 05:00PM
WebObjects Development Lab	Lab Wednesday 9:00AM
WebObjects Performance Optimization	Session 637 Friday 2:00PM
WebObjects Feedback Forum	Feedback Friday 3:30PM

WebObjects Training

- Internet Application Development Using WebObjects
- Advanced WebObjects Development
- http://train.apple.com

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